

REMARKS/ARGUMENTS

Claims 1-9, 11-24, 29, 31-37, 46-160, and 163-178 are currently pending. Claim 166 has been amended for clarification purposes only. It is respectfully submitted that no new matter has been added.

Priority

Applicant acknowledges the Patent Office's notation regarding the filing of the priority document.

35 U.S.C. § 112, Second Paragraph

The Patent Office rejected claim 166 under 35 U.S.C. 112, Second Paragraph, as being indefinite.

Claim 166 has been amended to eliminate the lack of antecedent basis noted by the Patent Office in the Office Action dated July 13, 2006. It is respectfully submitted that no new matter has been added.

35 U.S.C. § 103(a)

Claims 1-3, 7-22, 29, 33, 38-39, 46, 47, 51-57, 61-69, 73-82, 86-95, 99-110, 114-126, 130-143, 147-160, and 163-178 stand rejected under 35 U.S.C. §103(a) as anticipated by U.S. Patent No. 5,241,686 (Charbonnier), in view of Crichton, U.S. Patent No. 5,722,072.

Claims 4-6, 23, 24, 31, 32, 35-37, 48-50, 58-60, 70-72, 83-85, 96-98, 111-113, 127-129, and 144-146 stand rejected under 35 U.S.C. §103 as unpatentable over Charbonnier, in view of Crichton, U.S. Patent No. 5,722,072, and further in view of U.S. Patent No. 5,640,677 (Karlsson).

Independent claims 1, 22, 29, and 163 recite "measuring a duration of time for which the measured strength of the communication from the at least one other cell exceeds the measured strength of the communication from the current cell during said step of comparing" and "changing the current cell with which the station is associated, wherein the current cell is changed only if the measured duration of time is at least a predetermined time period". Charbonnier fails to teach these limitations because Charbonnier discloses comparing only one instantaneous measurement to another.

Charbonnier discloses a process for regulation of traffic load of fixed stations in a cellular radio communication network. Charbonnier discloses that a mobile station or mobile includes a list of frequencies that can be used as beacon routes (col. 8, lines 32-34, of Charbonnier). A synthesizer 44 of the mobile is positioned successively and cyclically on these frequencies (col. 8, lines 34-35). The mobile measures the power of a received field for each frequency (col. 8, lines 36-45). Based on the measurements of the latest scan of the frequencies, the mobile determines the beacon route that has the received field with the highest power value (col. 8, lines 46-57). The timing of the measurements is described at col. 8, lines 58-65 that states that one route is scanned every 700ms so that a scanning period for 40 routes is approximately 28 seconds.

There is no disclosure in Charbonnier for “measuring a duration of time for which the measured strength of the communication from the at least one other cell exceeds the measured strength of the communication from the current cell during said step of comparing”, as now expressly recited in independent claims 1, 22, 29, and 163. Instead, Charbonnier merely compares the measurements of each beacon route within one scan to each other to determine whether to change a current cell. According to Charbonnier, each frequency is measured for a specified amount of time during a scan of the frequencies, e.g., 700ms at col. 8, lines 58-65. Since the duration of time of the measurement is specified and since Charbonnier makes a comparison after each completed scan using the latest measured values, Charbonnier fails to teach or suggest any reason to measure how long a condition exists.

Claims 176-178 each recite “changing the current cell with which the station is associated, wherein the current cell is changed only if the condition that the measured strength of the communication from the at least one other cell exceeds the measured strength of the communication from the current cell is met and the condition continues to be met for the duration of a predetermined time period”. Charbonnier does not disclose, teach or suggest that the current cell is changed if the condition continues to be met for the duration of a predetermined time period. Rather, Charbonnier discloses that the current cell is changed based on one measurement in each of the cells (see col. 8, lines 46-57). Therefore, Charbonnier checks if a condition is met, but does not check that the condition continues to be met for a duration of a predetermined time period.

As Applicant has previously discussed, and as has been acknowledged by the Patent Office, Charbonnier (US 5,241,686) does not disclose measuring a duration of time for which the measured strength of communication from the at least one other cell exceeds the measured strength of the communication from the current cell during the step of comparing.

Charbonnier also does not disclose the feature of changing the current cell with which the station is associated, and the changing the current cell only if the measured duration of time is at least a predetermined time period.

The Patent Office has argued that the cited document Crichton (US-5,722,072) discloses these features. Furthermore the Patent Office has argued that it would have been obvious to modify the method of Charbonnier with the handoff of Crichton for a dense numbers of users. However, Applicant disagrees with the Patent Office's arguments for two reasons.

Firstly, Applicant believes that there would have been no incentive for one of ordinary skill in the art to combine the teaching of the two documents.

The two documents describe different approaches to handover. As been discussed in detail Charbonnier effectively performs a series of instantaneous measurements of current cell strength against neighbouring cell strengths followed by a selection step where if the measurement indicates that the neighbouring cell is greater than the current cell to handover to that cell.

Crichton, teaches a two step process. In the first step, the neighbouring cell strengths are compared against a threshold value for a predetermined time period. If the cell strengths are greater than the threshold for the time period they become 'candidate' cells. This can be seen in Figures 3 and 4, where the cells A and B respectively are increasing with respect to a programmable signal level threshold over time. In the second step, the current cell strength is compared against a threshold value for a time period – if the signal falls below this level for a predetermined time period then the method examines the candidate cell list and initiates a handover. This can be seen that the serving cell value shown in Figure 5, decrease quickly when compared to a programmable signal level threshold over time.

There is no indication to one of ordinary skill in the art that these two methods are compatible. Crichton actually indicates in the section highlighted by the Patent Office in column 2, that there are two separate methods for performing a handover known in the art. Lines 25 and 26 where a signal strength is compared against a threshold value as taught in the remainder of

Crichton, and as described in lines 27 to 29 discloses how the prior art GSM systems operate by instantaneous cell to cell comparison as taught in Charbonnier.

Thus, any person of ordinary skill in the art although acknowledging that the two methods are handover methods would draw the conclusion that they are two separate methods.

Furthermore, as indicated above there is no disclosure within Crichton of either measuring a duration of time for which the measured strength of communication from the at least one other cell exceeds the measured strength of the communication from the current cell, nor of changing the current cell only if the measured duration of time is at least a predetermined time period.

As has been pointed out, Crichton does not in the body of the invention disclose carrying out handover with regards to comparing between the cell strengths for a predetermined time but only discloses comparing a series of cell strength against a predetermined threshold level. The only disclosure of the comparison of the signal strength of neighbour cells exceeding that of the serving cell is that as indicated above on column 2, where it describes only the instantaneous measurement.

Thus even if the teachings of the two documents could be combined the additional information does not allow one of ordinary skill in the art to arrive at the invention as claimed in the independent claims.

Although Charbonnier discloses "thresholds," the thresholds of Charbonnier are disclosed as only being used in mathematical operations such as multiplication and not to provide a comparison. One of ordinary skill in the art would not find no motivation and no framework from the disclosure of Charbonnier to modify Charbonnier to have a predetermined condition that is the measured strength of the communication from the at least one other cell is greater than a threshold. Even if Charbonnier were amenable to such modification (and Applicant does not admit such), Karlsson does not remedy the deficiencies of Charbonnier or Crichton.

Therefore, as the claims are novel and non-obvious, claims 1-9, 11-24, 29, 31-37, 46-160, and 163-178 are allowable over Charbonnier in view Crichton and over Charbonnier in view of Crichton and further in view of Karlsson.

The Patent Office is respectfully requested to reconsider and remove the rejections of the claims 1-9, 11-24, 29, 31-37, 46-160, and 163-178 under 35 U.S.C. 103(a) based on Charbonnier in view of Crichton or Charbonnier in view of Crichton and Karlsson, and to allow all of the

pending claims 1-9, 11-24, 29, 31-37, 46-160, and 163-178 as now presented for examination. An early notification of the allowability of claims 1-9, 11-24, 29, 31-37, 46-160, and 163-178 is earnestly solicited.

Respectfully submitted:

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